STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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September 27, 1983

Mr. Steven M. Gottlieb
Director of Environment
U. S. Synthetic Fuels Corporation
2121 K Street, NW
Washington, D. C. 20586

RE: Comments on the SFC Designed
Environmental Monitoring Plan
Outline for Geokinetics
Seep Ridge Project
ACT/047/019
Uintah County, Utah

Dear Mr. Gottlieb:

Geokinetic's efforts to involve the Division of Oil, Gas and Mining during their development of monitoring plans and the State's required Mining and Reclamation Plan are very commendable. The opportunity afforded the Division to comment on all early design phases is one that is appreciated and sets an exemplary standard for the mining industry. Their use of highly regarded consultants' advice, as well as the attitude of their staff, has provided a very satisfactory and smooth permitting relationship thus far.

Review of the Environmental Monitoring Plan Outline has produced the following comments:

1. A possibly relevant omission appears to be a lack of emphasis on the already existing data derived from several years of experience during the research and development stage. Although the overall monitoring design appears to be good, incorporation of this information should not be neglected because it will provide a sound foundation for the Ambient Monitoring Program

2. Sampling strategies and methods as well as the use of the MATE analysis are well devised to cover areas with as many unknowns as the company is attempting to investigate. Because of the difficulty in assessing the unknowns it is hard to determine whether everything has been adequately covered. A general belief, though, is one that the present plans are designed for "over-kill."

3. Extent of the Phase II monitoring plans is not clear. Estimates of time limits which might be expected for continued sampling of future impacts should be devised (e.g., ground water permeability and transmissivity rates, as well as distances which expected effluents might travel toward newly developed seeps, etc.).

4. Certain details which may be useful to include in the outline regarding biological concerns are:

   A. vegetation test plot monitoring;

   B. revegetation monitoring.

5. It is necessary to ascertain the chemical and microbiological impacts of soil stripping and relocation. Soil chemical parameters to be monitored, method of analysis and reporting format have not been detailed. Consideration should also be given to population measurements necessary to monitor impacts upon soil microbiology attendant to stripping and relocating the soils.

Also included in this letter is a list of more detailed comments prepared for the consultants hired by Geokinetics in order to begin baseline monitoring designs and related work for the development of the Mining and Reclamation Plan. They are provided in response to initial proposals submitted during the cooperative program development during the end of August, 1983 and are as follows:

1. The "scope of work" presented by Mariah Associates for Geokinetics should provide all necessary data to establish revegetation success standards.

2. Is the Texaco-Seep Ridge Unit No. 2 Well the only deep well near the sites that can be used to establish underlying Paleozoic and Mesozoic structure?

   The investigation of the deep-seated structural influence of the Uncompahgre Uplift may define more specific areas of joint fracture development and therefore provide additional data on aquifer communication or potential permeability parameters.

3. Characterization of the peripheral limits of blasting effects should be developed three-dimensionally.

4. Postburn coring of present retorts should help to qualify effects of retorting on permeability. Suggested minimums would be three per retort on at least three retorts. Adjacent areas should also be investigated.

5. Estimates of horizontal ground water movement should be provided as they would relate to the "appearence of new springs and seeps in outcrop areas".

6. Postburn retort water sampling analysis and monitoring should be further elaborated upon regarding the frequency and duration (e.g., 10 years, 20 years, etc.).

7. Residual heat measurements should be monitored closely for development of heat retention curves, dissipation factors, influence on ground water vaporization times and effects on soils and revegetation.

8. Detailed reclamation cost estimates have not been provided for any phase of the program. Criteria such as methodology of cost estimate selection, items to be considered and variable achievement standards should be addressed.

9. The "two phase approach" should be refined, perhaps using the White River Oil Shale Project as a model.

10. Contact with, or at least concern for providing, the Resource Development Coordinating Committee adequate time to review the project should be considered.

The Division appreciates the opportunity to provide comments. If we can be of further assistance, please let me know.

Sincerely,

JAMES W. SMITH, JR.
COORDINATOR OF MINED
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JWS/TNT/jvb

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